EXPERTS FOR GROWTH

COMPO EXPERT®



Floranid® Twin Permanent 16-5-15 (+3 MgO + TE)

The proven universal slow-release fertilizer – more sustainable and high-performance!



Floranid® Twin Permanent 16-5-15 – optimized for today's requirements

For many years, Floranid® Twin Permanent has stood for reliable, uniform nutrient supply and high effectiveness. With further development, this established product has been sustainably optimized – without compromising its proven performance.

Floranid® Twin Permanent, with its balanced nutrient ratio, remains universally applicable in public green spaces, landscaping, commercial horticulture, and nurseries.

Key product benefits at a glance

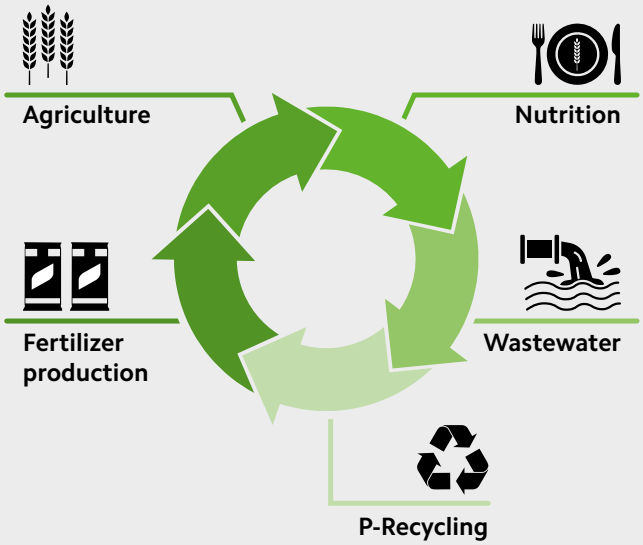
- Proven product – new formula: 16-5-15 (+3 MgO + trace elements)
- Reduced phosphate content (–28%) with optimized nutrient ratio: N : P_2O_5 = 1 : 0.31
- Recycled phosphate as a raw material – supports circular economy
- Low-carbon sources for nitrogen, potassium, magnesium, and sulfur → reduced CO_2 footprint
- Low Cadmium content (below 20 mg / kg P_2O_5)
- High ISODUR® and CROTODUR® content for reliable long-term effect
- Uniform nutrient release – no unwanted growth surges
- Minimized losses due to leaching
- Improved greening due to increased magnesium content (3%)
- Potassium in the advantageous sulfate form, low in chloride and highly plant-compatible
- Complete supply of macro- and micronutrients for all major crops
- Fine granulation: 90% of granules < 2.8 mm

Sustainability – integrated and optimized

Floranid® Twin Permanent is the first fertilizer to combine more sustainable sources of primary nutrients (NPK) in one formulation, representing continuous development at COMPO EXPERT. Compared to conventional products of the same composition, this results in a reduction of 425 kg CO_2e per ton of product.

- Reduced CO_2 footprint through low-carbon raw materials (N, K, Mg, S)
- Promotion of closed nutrient cycles and conservation of natural resources
- Improved phosphate efficiency through reduced, demand-based phosphate application
- "Slow Release P" from magnesium ammonium phosphate for improved availability and root development

Sustainable phosphate value chain





Improved nutrition through “Slow Release P”

Magnesium ammonium phosphate differs from water-soluble phosphate fertilizers through slightly lower immediate availability and more root-controlled release. This reduces phosphate losses due to fixation and leaching.

Long-term nitrogen effect

The balanced nutrient ratio, proven Double-N Technology, and high micronutrient content make Floranid® Twin Permanent a highly effective universal fertilizer.

The long-term nitrogen consists of a unique combination of two efficient nitrogen components:

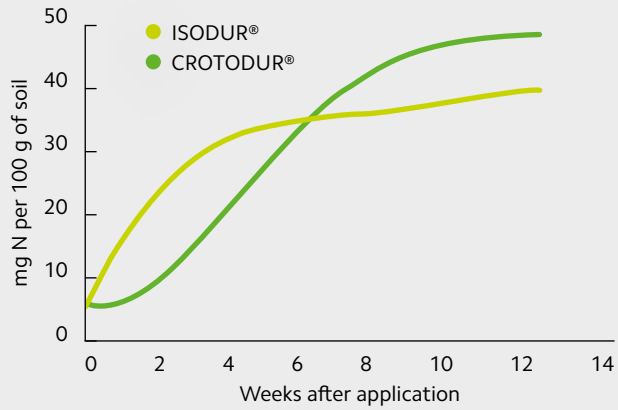
- ISODUR®
- CROTODUR®

This Double-N Technology ensures sustainable and reliable nitrogen supply with maximum nitrogen use efficiency (NUE).

- ISODUR® releases nitrogen depending largely on moisture and starts even at relatively low temperatures.
- CROTODUR® requires microbial activity and therefore higher temperatures.

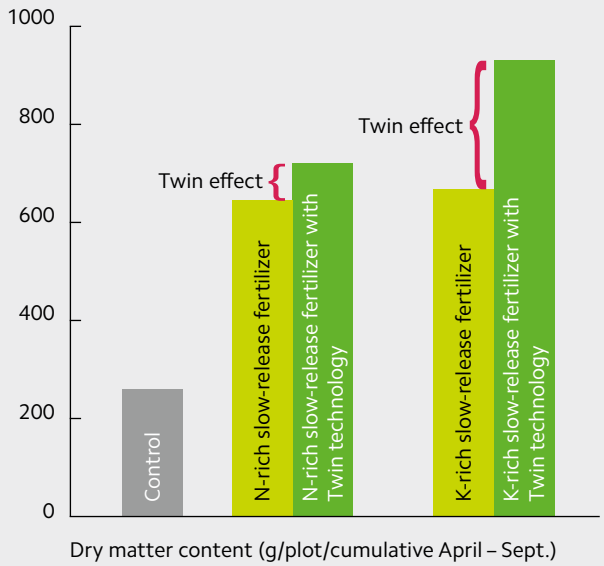
ISODUR® provides the initial long-term supply, while CROTODUR® extends it over time.

Release of nitrogen from ISODUR® and CROTODUR®



Source: Jung und Dressel, 1971

Influence of Floranid® Twin on fertilizer efficiency



STEPP Research Institute Brittany, France, 2014

Together, they create the “twin effect”, ensuring a consistent, long-lasting nitrogen supply over 2–3 months under normal conditions.

Benefits:

- Reduced labor effort
- Lower application risk
- Reduced nutrient losses
- Particularly effective on nutrient-poor or sterile soils

Areas of application

- New installations, seeding, planting, and fertilization
- Public green areas
- Sports turf, parks, ornamental lawn, and golf fairways
- Landscaping
- Commercial horticulture and nurseries

Application

Floranid® Twin Permanent can be applied by hand (use protective gloves if necessary) or with spreaders. The fertilizer is suitable for base and maintenance fertilization and also recommended for use with robotic mowers.

Irrigation after application enhances immediate effect.

20 kg bags are easy to handle and user-friendly.

Irrigation after application enhances immediate effectiveness.



Nutrient content and formulation

EU fertilizing product – MINERAL FERTILIZER – PFC 1(C)(I)(a)(ii) + MINERAL FERTILIZER – PFC 1(C)(I)(a)(ii) (PFC 7)

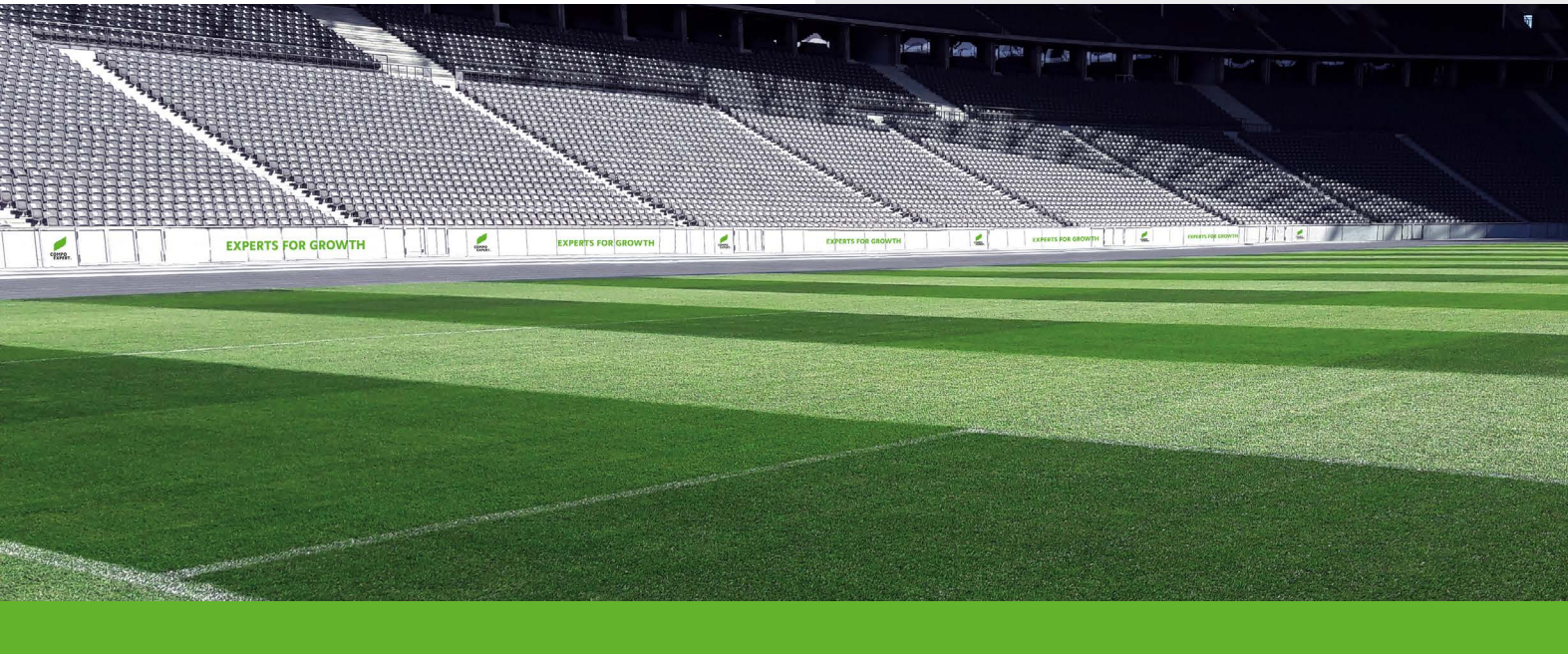
16 %	N	total nitrogen,
		3,5 % nitrate nitrogen
		6,5 % ammonium nitrogen
		3,6 % ISODUR®
		2,4 % CROTODUR®
5 %	P_2O_5	total phosphorus pentoxide
		1,6 % water-soluble phosphorus pentoxide
		5,0 % phosphorus pentoxide soluble in neutral ammonium citrate
15 %	K_2O	water-soluble potassium oxide
3 %	MgO	total magnesium oxide
		1,0 % water soluble magnesium oxide
21,25 %	SO_3	total sulfur trioxide
		20,0 % water soluble sulfur trioxide
0,01 %	Cu	water soluble copper, as copper disodium EDTA, 100% chelated
0,50 %	Fe	total iron, as sulfate
0,10 %	Mn	total manganese, as sulfate
0,01 %	Zn	total zinc, as sulfate

Granule size
90% < 2,8 mm

Packaging
20 kg plastic bag

Cd
≤20 mg/kg
P_2O_5





Application rates

The application rates are based on field trials and many years of practical experience. Floranid® Twin Permanent can be readily combined throughout the crop cycle with other slow-release fertilizers such as Floranid® Twin Eagle Master, Floranid® N 31, Super Floranid® Twin Turf BS, and Floranid® Twin NK.

Note: Irrigation after application enhances the immediate effect. For sensitive crops, ensure that no granules remain on the leaves.



Application rates in public green spaces, golf courses, landscaping, nurseries, and commercial horticulture

Area	g/m²	kg/100 m²	Period	Applications/year
Turf				
Sports turf	40–50	4–5	Mar–Oct	1–3
Golf courses	30–50	3–5	Mar–Oct	1–2
Public lawns	30–40	3–4	Mar–Aug	1–2
Ornamental lawns	40–50	4–5	Apr / May	1
Lawn seeding	40–60	4–6	At seeding	1
Ornamental plants				
New planting	40–60	4–6	At planting	1
Annual flowers	30–40	3–4	Planting/top dressing	1–2
Perennials	30–50	3–5	Planting/top dressing	1–2
Roses, shrubs	50–80	5–8	Planting/top dressing	1–2
Woody plants/greening				
New plantings	40–80	4–8	At planting	1
Maintenance	30–40	3–4	Apr–Jun	1
Greening/seeding	40–50	4–5	At seeding	1
Roof gardens				
Maintenance	30–50	3–5	Apr–Jun	1
Nursery crops				
Propagation	40–50	4–5	As needed	1–2
Nursery beds	40–80	4–8	As needed	1

Further application recommendations can be found on our website.

Floranid® Twin Permanent – sustainably designed, proven in performance, optimized in composition.

COMPO EXPERT

Competence around the world



COMPO EXPERT GmbH
Krögerweg 10
48155 Münster
Phone: +49 251 297981-000
Fax: +49 251 297981-111
E-mail: info@compo-expert.com

www.compo-expert.com